

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Previously presented) A method in a data processing system for monitoring execution of instructions, the method comprising:
  - identifying an instruction for execution;
  - determining whether the instruction is within a contiguous range of instructions;
  - responsive to determining that the instruction is within a contiguous range of instructions, counting at least one of a number of times the contiguous range of instructions is entered during execution of a program and a number of times the instruction has been executed; and
  - providing a result of the counting.
2. (Canceled)
3. (Previously presented) The method of claim 1, wherein the counting step comprises:
  - sending a signal from an instruction cache to a performance monitor unit; and
  - the performance monitor unit tracking the counting.
4. (Previously presented) The method of claim 1, wherein the contiguous range of instructions comprises one contiguous range of instructions, and further comprising:
  - determining whether the instruction is within another contiguous range of instructions; and
  - responsive to determining that the instruction is within the another contiguous range of instructions, counting at least one of a number of times the another contiguous range of instructions is entered during execution of the program and a number of times the instruction has been executed.
5. (Canceled)
6. (Previously presented) The method of claim 1, wherein the determining step comprises:
  - comparing an address of the instruction to a set of addresses in a set of registers in a processor to determine whether the instruction is in the contiguous range of instructions.

7. (Original) The method of claim 6 further comprising:  
setting the set of registers using a performance tool.
8. (Previously presented) A method in a data processing system for monitoring access to data in memory locations, the method comprising:  
identifying an access to data in a memory location;  
determining whether the memory location is within a contiguous range of memory locations;  
responsive to determining that the memory location is within a contiguous range of memory locations, counting at least one of a number of times the contiguous range of memory locations is accessed during execution of a program and a number of times the memory location has been accessed;  
and  
providing a result of the counting.
9. (Canceled)
10. (Previously presented) The method of claim 8, wherein the counting step comprises:  
sending a signal from a data cache to a performance monitor unit; and  
the performance monitoring unit tracking the counting.
11. (Previously presented) The method of claim 8, wherein the contiguous range of memory locations comprises one contiguous range of memory locations, and further comprising:  
determining whether the memory location is within another contiguous range of memory locations; and  
responsive to determining that the memory location is within the another contiguous range of memory locations, counting at least one of a number of times the another contiguous range of memory locations is accessed during execution of the program and a number of times the memory location has been accessed.
12. (Canceled)
13. (Previously presented) The method of claim 8, wherein the determining step comprises:  
comparing an address of the memory location to a set of addresses in a set of registers in a processor to determine whether the memory location is in the contiguous range of memory locations.

14. (Original) The method of claim 13 further comprising:  
setting the set of registers using a performance tool.

15-25. (Canceled)